United States Environmental Protection Agency | Office of Air Quality Planning And Standards | EPA 454/N-96-001 Volume 5 No. 1 1996

EPA AMTIC News

Ambient Monitoring Technology Information Center

AN IMPORTANT WORD FROM THE MQAG CHIEF

Last year, we discontinued the AMTIC News because of EPA's budget constraints. While we are still operating under significant budget pressure and anticipate doing so in fiscal year 1996 (FY96) and beyond, we have, based on recommendations from AMTIC users and others, made resources available to reinstate the newsletter. Therefore, we are planning to once again issue newsletters as long as we have funding available to do so. Two new features of the AMTIC News will be sections dedicated to Quality Assurance (QA) and Photochemical Assessment Monitoring Stations (PAMS) concerns. These segments of the AMTIC News will inform readers of the steps being taken to improve our QA program and of the progress in implementing and analyzing data from PAMS monitoring. We invite comments and recommendations on how to make the AMTIC News more helpful to users.

John Silvasi
Leader, Monitoring & Quality Assurance Group

IN THIS ISSUE

PAMS PROGRAM UPDATE

PAMS Growth Accelerates

The PAMS program has grown significantly since its official beginnings in 1994 (Figure 1). During the ozone season of 1995, 54 sites were expected to be operational; by 1996, approximately 69 PAMS sites should be on-line. For FY96, EPA will add $16.5 million to the effort bringing a three-year total federal contribution of $31 million via the section 105 grant process. For the first time as a national effort, the States have instituted an environmental monitoring system which is designed to support the development of ozone management strategies rather than simply gather data to compare to a standard. To that end, a significant portion of the FY96 funds have been targeted for data analysis and meteorological monitoring.

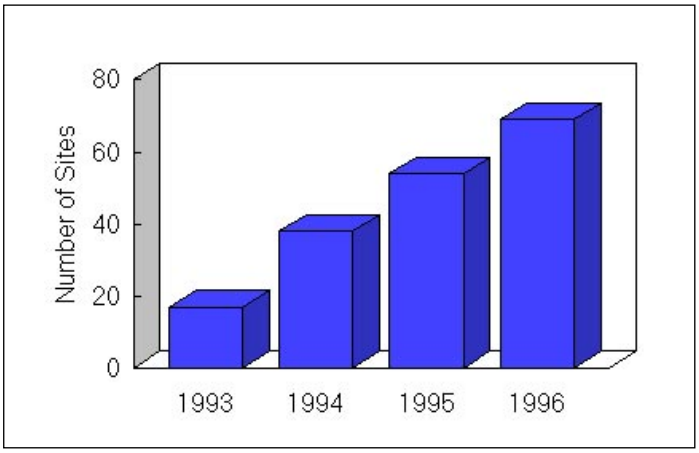

Figure 1. PAMS Growth, 1993-1996

PAMS Reorganization Complete

The long awaited reorganization of the PAMS program was completed this past summer. The most significant changes included increasing the talent base from which the program may draw (nearly 75 individuals are now involved in PAMS) and broadening involvement to include Regional Offices and State and local agencies as partners with EPA in the PAMS program.

A Steering Committee of senior EPA (OAQPS, ORD, and Regional) and State/local staff chaired by Bill Hunt (Director of OAQPS's Emissions, Monitoring, and Analysis Division) now governs the program. There are seven working groups reponsible for the daily operations of PAMS. The working groups and their chairs are as follows:

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PAMS GROWTH (continued from page 1)

Implementation:
Nash Gerald (919) 541-5652
Measurement:
Dr. Bill McClenny, ORD, (919) 541-3158;
Dr. Richard Scheffe, OAQPS, (919) 541-4650, co-chairs
Meteorology:
Desmond Bailey (919) 541-5248
Quality Assurance/Quality Control:
Randy Waite (919) 541-5447
Data Management:
Jonathan Miller (919) 541-3330
Information Transfer and Outreach:
Tom Link (919) 541-5456
Data Analysis and Interpretation:
James Hemby (919) 541-5459

The chairs constitute the PAMS Team which ensures interaction and information sharing among the working groups. Copies of the PAMS organization and working group action plans for FY96 are available from the chairpersons listed above. The next advancement in the PAMS organization will be the creation of a panel of nationally recognized experts on tropospheric ozone to interact with the PAMS program.

What's Happening in Quality Assurance

The joint EPA/State PAMS Quality Assurance Working Group is looking for ways to address critical issues and help States successfully implement their PAMS programs. In an effort to address the key issues related to data validation, data management, and quality assurance in the PAMS program, the Quality Assurance Working Group is collecting information from PAMS site operators on the current challenges experienced in the field. The survey solicits feedback on the usefulness of current guidance, the effectiveness of EPA QA support, and the need for other types of support and guidance. The following key issues have been identified so far: (1) the need for a technical information exchange network, (2) the need for improved guidance on data validation processes, (3) the need for guidance on expected system detection limits, and (4) the need to address carbonyl measurement and analysis problems. In addition, EPA is compiling a list of the hardware and software currently used by the States to collect and report ozone precursor monitoring data. This effort builds on a similar survey conducted and reported last year by STAPPA/ALAPCO.

The National Performance Audit Program (NPAP) now includes PAMS VOC and carbonyl audits three times each year -- Spring, early Summer, and late Summer. The results are returned to the participants within two weeks of the end of the reporting period.

EPA is working with the States to provide VOC retention time and calibration standards that are certified by the EPA Office of Research and Development. EPA is also providing technical support to sites to set up and implement PAMS systems. Similar technical support services are planned for next season. For more information regarding the work of the PAMS Quality Assurance Working Group, please contact Randy Waite at (919) 541-5447.

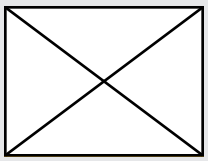
Data Analysis Workshop Announced

The PAMS Data Analysis and Interpretation Working Group in conjunction with the NARSTO-NE Data Analysis Technical Team is developing a data analysis workshop to be conducted in various locations nationwide. The workshop will focus on the techniques and analytic approaches used in evaluating recent PAMS, NARSTO, and similar aerometric data. The PAMS program plans to conduct several regional workshops in 1996 in addition to a national conference next Spring. Anyone interested in these workshops or the national conference should look for announcements in future editions of the AMTIC News or contact James Hemby at (919) 541-5459.

How's the Weather - Status of Upper Air Meteorological Activity

Upper-air meteorological monitoring in support of PAMS is performed using several types of monitoring platforms, including aircraft, balloon systems (rawinsondes), acoustic sounders (SODAR), radar wind profilers (LAPS), and Radio Acoustic Sounding Systems (RASS). Since the design of the upper-air monitoring program depends upon region-specific factors, the optimal design for a given PAMS region involves some mix of the above platforms. Statistics compiled for the summer of 1995 include the following: radar profilers LAP/RASS systems were operated at eight sites, acoustic sounding systems at four sites, and rawinsondes at seven sites. Aircraft were also used at several sites. For additional information on upper air meteorological measurement activities, contact Desmond Bailey at (919) 541-5248.

WHAT'S NEW ON THE AMTIC BBS?



There have been several changes to the AMTIC BBS since the last issue of the AMTIC News. The most noticeable was the February 1995 revision of the BBS structure. The menus and file structure of the BBS were completely redesigned for ease of use and organization. Several new file areas and a "Message to SysOp" feature were added.

More recently, three new file areas have been added to the AMTIC BBS. The first is an archive area for past AMTIC Alerts. The second is a criteria pollutants related documents area, which contains the text of EPA reports and documents on ambient monitoring. (Some of them are no longer available anywhere else!) The most recent addition, a list of current monitoring-related articles from technical journals, has become very popular.

If you haven't been on the BBS in a while, log on and see what's new! The AMTIC BBS telephone number is (919) 541-5742.

National Performance Audit Program (NPAP) Update

The National Performance Audit Program (NPAP) is a national program consisting of 4,835 air pollution monitors in the ambient air network comprising the State and Local Air Monitoring Stations (SLAMS), National Air Monitoring Stations (NAMS), Prevention of Significant Deterioration (PSD), and Photochemical Assessment Monitoring Stations (PAMS) sites. The PAMS were added to the NPAP for 1995. The NPAP audits are accomplished using a variety of mailable audit systems. The participants use these audit systems to generate pollutant concentrations and flowing air streams which are then introduced into their sampling system. The pollutant concentrations and air stream flow rates are unknown to the audit participants. The outputs from the analyzer/sampler that result from the use of the audit system are recorded on a data form, returned to the EPA, and compared to the concentration or flow rate that should have been generated by the audit system under the environmental conditions at the site. The differences between the EPA expected (certified) values and the NPAP participant's reported values are calculated and returned to the participant.

The NPAP is operated by the National Exposure Research Laboratory (NERL), formerly AREAL, with technical contract support. The objectives of the NPAP are to (1) complete at least 95 percent of the scheduled audits by the end of the year, and (2) determine if the participants' performance exceeds the EPA determined limits of $\pm$15 percent of the standard.

1994 NPAP Results

The NPAP results for 1994 are summarized in the following tables.

Percentage of NPAP Audits Completed, 1994

Audit	No. of Audits Scheduled	No. of Audits Completed	% Completion
SSI/Hi-Vol	350	359	103
CO	158	160	101
SO_2	172	180	105
Lead	384	389	101
Sulfate	68	70	103
Nitrate	56	59	105
Nitric Oxide	121	121	100
NO_2	121	8	7[1]
Ozone	175	178	102
Dichot	18	17	94

[1] The TECO 175s were introduced in the third quarter. This late start, coupled with flow stability problems, led to the low completion for nitrogen dioxide.

Percentage of NPAP Participants Within EPA Performance Limits, 1994

Audit	Percent of Participants Within 15%
CO	97
SO_2	96
Nitric Oxide	96
NO_2	100
Ozone	99
Hi-Vol/PM-10 (SSI)	95
Dichot (PM-10)	83
Lead	94
Sulfate	84
Nitrate	87

Current Status

The 1995 site prioritization for the NPAP included those sites having an NPAP priority of 1 or 2. Approximately 390 sites were scheduled for audit in 1995. Approximately 975 sites are scheduled for audit in 1996. The 1996 site prioritization for the NPAP includes those sites having an NPAP priority of 1 or 3, plus 20 percent of those sites not having an NPAP priority. This increases the likelihood that all sites will be audited at least once by the NPAP during a five-year period.

The NPAP is one aspect of the QA picture used by EPA to assess the overall quality of the data received from the nationwide air monitoring network. The NPAP is continually evolving and improving to meet the ever changing environmental needs of the nation and to ensure that air monitoring data are of known and acceptable quality. For further information on the NPAP, contact Liz Hunike, Program Coordinator, ORD (MD-77), at (919) 541-3737 or David Musick, Quality Assurance Manager, OAQPS, EMAD/MQAG (MD-14), at (919) 541-2396.

IMPROVE Monitoring Update

Preliminary data collection statistics for the Summer 1995 season (June, July, and August) are as follows:

Data Type	Collection Percentage
Aerosol data	94%
Optical (transmissometer) data	95%
Optical (nephelometer) data	93%
Scene (photographic) data	86%

The CASTNet program has adopted IMPROVE optical and scene monitoring protocols but is using different aerosol monitoring techniques. Aerosol data for Summer 1994 are complete, and seasonal summaries have been submitted to the National Park Service (NPS). Analytical results from one of the external laboratories are needed in order to complete the aerosol data and summaries for Fall 1994. The Seasonal Summary Report of Nephelometer-Based Visibility Data for Winter 1994 was delivered to NPS on May 30, 1995, along with the Seasonal Summary Report of IMPROVE Scene Monitoring for Winter 1994.

This information is provided by the Interagency Monitoring of Protected Visual Environments (IMPROVE) Steering Committee.

Overview of the National Air Monitoring Program Regulatory Requirements

Section 110 of the Clean Air Act requires ambient air quality monitoring and data reporting to be included in State Implementation Plans (SIPs) for pollutants covered by national ambient air quality standards (NAAQS). In 1979, the EPA promulgated air monitoring and reporting regulations for States to establish and operate ambient air monitoring networks and to report the data to EPA. The national ambient air monitoring program conducts measurements for the six pollutants that have NAAQS: carbon monoxide (CO), lead (Pb), nitrogen dioxide (NO_2), ozone (O_3), particulate matter (PM-10), and sulfur dioxide (SO_2). The national primary and secondary NAAQS are set forth in 40 CFR Part 50.

The national network consists of four major categories of monitoring stations: SLAMS, NAMS, special purpose monitors (SPMs), and PAMS. In 1994, a total of 4,835 monitors were operating, including 2,574 SLAMS, 980 NAMS, 38 PAMS, and 1,243 "other" (including SPMs) monitors.

The monitoring stations established by State, local, and tribal agencies must conform to network design and siting criteria, data reporting procedures, and minimum QA program requirements, as specified in 40 CFR Part 58. Part 58 also specifies that reference or equivalent methods must be used. Reference methods are included in 40 CFR Part 50, while requirements for reference and equivalent method determinations and procedures for testing performance characteristics are found in 40 CFR Part 53.

EPA's OAQPS is responsible for managing the national ambient air monitoring program and ensuring the collection of air monitoring data of known quality that meet the regulatory requirements. The QA/QC of the national air monitoring program has several major components, including precision and accuracy (P&A) of the collected data, EPA's National Performance Audit Program (NPAP), systems audits, and network reviews. P&A requirements are contained in 40 CFR Part 58, Appendix A. The requirements include the timeliness of P&A data submittals, the frequency of precision

(continued on page 5)

Quality Assurance Handbook Revisions

The EPA is currently preparing an updated version of the five-Volume *Quality Assurance Handbook for Air Pollution Measurement Systems* (QA Handbook) (Revised Edition); an interim revised edition (Interim Edition) was issued in April 1994 to meet the needs of the user community until the revised version is available. Each volume of the Interim Edition was issued as a complete unit with out-of-date sections either deleted or modified using addendum sheets and handwritten notations in the text. Deleted sections are available on request.

Volume I: A Field Guide to Environmental Quality Assurance (EPA-600/R-94-038a) (replaces Volume I: Principles) - This volume covers the "big picture" of environmental data collection, from project planning through final report writing. Volume I was completely revised and substantially reduced in 1993; changes made in the Revised Edition are expected to be minor. Expected late-1996.

Volume II: Ambient Air Specific Methods (EPA-600/R-94-038b) - This volume contains guidelines for ambient air quality measurement systems. In the Interim Edition, manual SO_2, manual NO_2, SO_2 by flame photometry, ozone by chemiluminescence, and protocol 2 gas sections were deleted (the protocol 2 gas section has been combined with the protocol 1 gas section in Volume III and published separately). A section on QA for organic compound measurement systems and automated PM-10 samplers will be included in subsequent editions. A cooperative effort between OAQPS, ORD, and the EPA Regions to completely revise this document will begin in FY96. Expected early-1997.

Volume III: Stationary Source Specific Methods (EPA-600/R-94-038c) - This volume provides guidelines for QA in performance of gaseous and particulate emission testing of stationary sources by federally prescribed methods. In the Interim Edition, the protocol 1 gas section was deleted and combined with the protocol 2 gas section in Volume II and published separately as, "EPA Traceability Protocol for Assay and Certification of Gaseous Calibration Standards," EPA-600/R-93-224, September 1993. The Revised Edition will differ substantially from the Interim Edition. Approximately 58 methods will be added, and activities and equipment common to more than one method will be placed in generic sections. Information in the *Code of Federal Regulations* will not be repeated in the text. Expected February 1996.

Volume IV: Meteorological Measurements (EPA-600/R-94-038d) - This volume contains QA/QC requirements as applied to meteorological problems, and variable specific information (e.g., wind, temperature, humidity, radiation, precipitation, and surface air pressure). The Interim Edition was a reprint of the 1989 edition. The Revised Edition will be expanded to cover equipment measuring meteorological parameters from 10 to 1000 meters altitude. Expected late-1995.

Volume V: Precipitation Measurement Systems (EPA-600/R-94-038e) - This volume covers laboratory and field measurement systems currently used in precipitation monitoring. Volumes Va and Vb were combined in the Interim Edition, and 200 pages of appendices in Volume Vb were deleted. The Revised Edition will be expanded to cover dry deposition; SOPs for analytical methods/equipment calibration will be removed. Expected February 1996.

To obtain copies of the Interim Edition or Revised Editions when they are issued, contact:

USEPA/ORD
ORD Publications Office
Center for Environmental Research Information (CERI)
26 West Martin Luther King Drive
Cincinnati, Ohio 45268-1072
(513) 569-7562

REGIONAL CORNER

- REGION I -

The PAMS program in Region I is nearing full operation. All five PAMS networks are expected to be complete by the end of FY96. The PAMS QA initiative is continuing, with collocated measurements for precision checks at both VOC and carbonyl sites. Two States have submitted their PAMS Quality Assurance Project Plans.

Collaborations with several other groups are contributing to the Region I PAMS program. Round robin laboratory studies were performed with laboratories in Texas, Louisiana, Michigan, New Jersey, New York, EPA Region II, and Canada. The North American Research Strategy for Tropospheric Ozone in the Northeast (NARSTO-NE) has equipped nine PAMS-like sites in rural areas to the Northwest of the ozone transport corridor, and deployed five upper air meteorological sites. Several upper air sites were equipped with state-of-the-art instrumentation, including SODAR and RASS. NARSTO-NE is a multi-year, public-private research initiative focusing on ozone and transport within the northeastern United States.

Plans for 1996 include enhancing the number and measurement capability of PAMS sites; increasing aircraft measurements of ozone precursors aloft within and west of the ozone transport corridor; and assessing the 1994-1995 PAMS data. Data assessment is expected to consume an increasing share of PAMS resources in the coming years. Short-term plans include a review of 1994 QA/QC validated data within the next six months, followed by a comparison with 1995 QA/QC data. This assessment will in turn be followed by an in-depth analysis of the 1995 data from PAMS and NARSTO-NE monitoring programs.

Several other ambient monitoring programs are also planned for FY96, including two traffic-related studies. A motor vehicle cold start study was started in September 1995 in the garage of Boston's Tip O'Neill Federal Building. A tunnel study is planned for the Callahan-Sumner Tunnel in Boston. This study differs from other recent studies because traffic in the Callahan-Sumner Tunnel is slower moving, stop-and-go traffic, as compared to the more free flowing pace of traffic in other tunnel studies. Both studies should provide valuable information for PAMS data assessment.

A collaborative effort of the State of Maine, EPA Region I, and the Northern Oxford County Coalition (a citizens group) has implemented neighborhood studies in Rumford and Mexico, Maine. The towns, which are located near a pulp mill, have been identified as having abnormally high incidences of cancer. The study began in the summer of 1995 and will continue through the spring of 1996. Targets of the study include acid fog and VOCs.

The Harvard School of Public Health is planning a one year particle-ozone study in Boston, beginning next year. The study, which will focus on PM10, PM (fine), acid aerosols, and ozone, is being funded by USEPA's National Exposure Research Laboratory (NERL) and the National Institute of Environmental Health Sciences (NIEHS). For further information, contact Alan Oi, USEPA Region I, Boston, MA, (617) 860-4386.

- REGION VII -

Programs in Region VII are focusing on three areas: VOC monitoring in Kansas City, network reviews, and performance and systems audits. Kansas City has been in attainment for ozone for several years, but recent exceedances in July and August at two ozone monitoring sites have encouraged development of contingency control measures to be in place by the summer of 1996. A two-week VOC sampling program was implemented to try to identify the types of VOCs contributing to the exceedances and the source(s) of the VOCs. VOC canister sampling was conducted at the ozone sites, with the Region VII laboratory performing the analyses. Three-hour canister samples were taken every third day from 6:00 to 9:00 a.m. (with some taken from 10:00 a.m. to 1:00 p.m.) Sample analysis was focused on VOCs on the PAMS list.

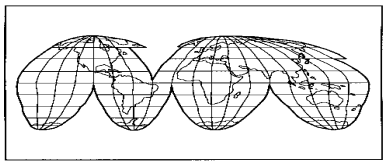
Region VII has also started a program of monitoring network reviews, beginning with the SO_2 network in Cedar Rapids, Iowa. Based on the review, four of the five monitoring sites are to be relocated. The Wichita, Kansas PM10 network is the next network to be reviewed. The procedures developed during the course of these network evaluations will be supplied to State and local agencies in Region VII to help them review their own monitoring networks.

Region VII has begun a program of performance and systems audits. The current schedule calls for completing audits at all sites within three years. Monitoring sites will be videotaped for reference during the course of these audits. Systems audits are being performed using an expanded questionnaire that was sent on floppy disk to four monitoring agencies, along with a request for copies of records (site logs, calibrations, etc.). Three of the agencies responded, with the fourth response expected shortly. This approach, which allows the agencies to collect the data and complete the forms over an extended period of time, and reduces the need for frequent on-site visits, appears to be very successful. For further information, contact James Kelly, USEPA Region VII, Kansas City, KS, (913) 551-5056.

OVERVIEW (continued from page 4)

checks and audits, and data quality goals for P&A data. EPA's acceptable data quality goals for the P&A data are ±15 percent for precision and ±20 percent for accuracy (*QA Handbook, Volume II*). Participation in the NPAP by agencies operating SLAMS/NAMS and PSD monitors is required by Section 2.4 of 40 CFR Part 58, Appendices A and B. Also, according to Section 2.4 of Appendix A, agencies operating SLAMS monitors shall be subject to annual EPA systems audits of their monitoring programs. Finally, Section 58.20 of 40 CFR Part 58 requires annual reviews of ambient air quality networks to determine conformance with the monitoring objectives contained in 40 CFR Part 58, Appendix D.

Upcoming issues of this newsletter will focus on specific QA issues. Additional information on QA may be found on the AMTIC BBS.



Monitoring Regional Air Quality in Southern Africa Using Diffusive Samplers

Submitted by Ranil Dhammapala -

Diffusive samplers are being employed to monitor the levels of selected tropospheric pollutants, namely sulfur dioxide (SO_2), nitrogen dioxide (NO_2), ammonia (NH_3) and ozone (O_3) at four remote sites [Louis Trichardt and Cape Point (South Africa), Maseru (Lesotho), and Okaukuejo (Namibia)] in Southern Africa (Figure 2) over a period of one year. The project, which is part of the International Global Atmospheric Chemistry/Deposition of Biogeochemically Important Trace Species/Africa [IGAC DEBITS AFRICA (IDAF)] project, deals specifically with gaseous measurements at IDAF sites in Southern Africa.

Figure 2. Monitoring Sites in Southern Africa

The aim of the project is to determine the regional air quality in relation to other parts of Africa in particular and also to the rest of the world using low-cost diffusive gas samplers developed by a Swedish research institute (Figure 3). In short, the diffusive samplers work on the chemical and physical processes of chemisorption and molecular diffusion, respectively. The rates at which gases in ambient air diffuse into the sampler depends on the diffusion coefficients of the respective gases. The gases are collected on a filter which has been impregnated with a chemical capable of absorbing the pollutant of interest by reacting very specifically with it. A constant sampling rate, high absorption efficiency, and the stability of the trapped pollutant ensure that the sampling process is extremely efficient (though not rapid). The concentration of the product resulting from this reaction is then analyzed according to standard methods in the laboratory. No field calibration is necessary, and the concentration of the pollutant of interest is integrated over the time of exposure, typically ranging from one week to one month.

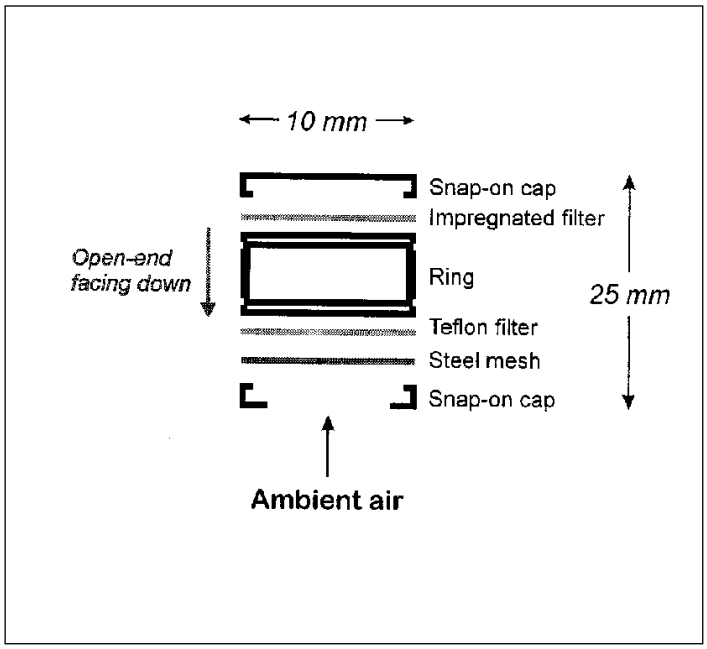


Figure 3. Schematic Representation of a Diffusive Sampler

A method intercomparison and validation experiment was undertaken at an ESKOM (the electricity utility company in Southern Africa) pollution monitoring site at Elandsfontein in the Eastern Transvaal. The diffusive sampler results were compared with those from active samplers operated at the site and against the results of two other sets of diffusive samplers, one assembled and analyzed in Australia by the Commonwealth Scientific and Industrial Research Organization (CSIRO) and another, similar set assembled and analyzed in Sweden. The results confirmed that the diffusive samplers are cost-effective and reliable alternatives to conventional active samplers over weekly or longer sample integration periods. Since the diffusive samplers do not use electricity, they are ideal for sampling pollutants in remote locations.

Although large sources in South Africa are required by law to monitor their emissions, this is the first study that attempts to evaluate the regional air quality in Southern Africa, based on the data from several representative sampling sites in the region. Due to the large effect of biomass burning on atmospheric conditions during dry periods in Africa, this work is likely to be expanded in the near future to encompass a range of additional pollutants, including VOCs. Cooperation and/or collaboration with research groups sharing these interests would be welcome. For more information, contact Ranil Dhammapala, Department of Physical Chemistry, Potchefstroom University, Potchefstroom 2520, South Africa, 27-(0) 148-299-2347.

Standard Reference Photometer Program Oversight

The EPA is responsible for overseeing the national ambient monitoring network for criteria pollutants, including the network for measuring ambient concentrations of ozone. This network, which is operated by State and local air pollution control agencies, requires ozone concentration standards for calibrating and auditing ambient ozone monitors. Ozone concentration standards are also required to check the span and precision of these ozone monitors between calibrations. Because of the instability of ozone, the certification of ozone concentrations as Standard Reference Materials (SRMs) is impractical, if not impossible. Thus, when ozone concentration standards are required, they must be generated and certified locally.

In view of this need, the Standard Reference Photometer (SRP) was developed by the U.S. National Institute of Standards and Technology (NIST) and the EPA as a highly stable, highly precise, computer-controlled instrument for assay of ozone concentrations. A nationwide network of regionally located SRPs was established in 1984 to provide a means for State and local air monitoring agencies to compare their ozone standards with authoritative ozone standards maintained and operated under closely controlled conditions. The data obtained from these comparisons throughout the SRP Network provide EPA with a measure of the nationwide reliability and comparability of local ozone standards. Cooperating laboratories may also use the SRPs for certification of ozone transfer standards if resources permit. Each SRP was fabricated at the NIST and then tested and certified by NIST before shipment to EPA for additional testing and deployment in the SRP Network.

Currently, the SRP Network consists of SRPs located at EPA's NERL (formerly AREAL) in Research Triangle Park, North Carolina; at EPA's Region I Environmental Services Division (ESD) in Lexington, Massachusetts; at EPA's Region II ESD in Edison, New Jersey; at EPA's Region IV ESD in Athens, Georgia; at EPA's Region V in Chicago, Illinois; at EPA's Region VI ESD in Houston, Texas; at EPA's Region VII ESD in Kansas City, Kansas; at EPA's Region VIII ESD in Denver, Colorado; and at the State of California Air Resources Board (CARB) in Sacramento, California.

Historically, NERL has been responsible for the inspection, calibration, maintenance, and recertification of the SRPs in the national network. Because of manpower constraints at NERL, responsibility for managing the SRP program was transferred to OAQPS in FY95. Since assuming responsibility for managing the SRP program, OAQPS has recertified EPA's primary SRP; and inspected, calibrated, and recertified the eight SRPs in the national network. A standard operating procedures manual and training concept plan for operating and maintaining the SRPs are currently being developed. For more information, contact Randy Waite, OAQPS, EMAD/MQAG (MD-14), at (919) 541-5447.

Equivalency Status

List of Designated Methods:

Last issue date: September 15, 1995
Last general distribution: September 1995
Last designations:
API Model 100A SO_2 Analyzer
API Model 200A NO_2 Analyzer
OPSIS Model AR500 (Open Path) Ambient Air Monitoring System (O_3, SO_2, NO_2)
Environment S.A. Model AC31M Chemiluminescent NO_2 Analyzer
Environment S.A. O341M UV Photometric O_3 Analyzer
Horiba Model APMA-36O Ambient CO Monitor
City of Houston Flameless (Graphite Furnace) Atomic Absortion for Pb

Methods designated to date:

TYPE	SO_2	NO_2	O_3	CO	PM10	Pb	Totals
Reference	1	17	9	14	7	1	49
Equivalent	24	4	11	0	3	17	59
Totals	25	21	20	14	10	18	108

Pending Reference and Equivalent Method Applications:

Applications for reference or equivalent method determinations for the following ambient air monitoring instruments are currently pending. Additional information on these methods may be obtained from the Air Measurements Research Division, NERL, Research Triangle Park, NC 27711, (919) 541-2622.

Environment S.A.	Poissy, France	Model CO11M	CO
Pima County	Tuscon, AZ	ICAP-OES Method	Pb
Pima County	Tuscon, AZ	ICAP-MS Method	Pb

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